



*SENSOR  
TECHNOLOGIES &  
SYSTEMS, INC.*

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[www.sensor-tech.com](http://www.sensor-tech.com)**



SENSOR TECHNOLOGIES & SYSTEMS, INC.

## SENSOR TECHNOLOGIES & SYSTEMS, INC.

- HEADQUARTERS:

- ◆ 7655 EAST REDFIELD ROAD, SCOTTSDALE, ARIZONA 85260

- CAPABILITIES:

- ◆ SPECIFICATION, DESIGN, FABRICATION & TEST

- RADAR AND RF SYSTEMS AND SUBSYSTEMS
- ACTIVE AND PASSIVE MISSILE SEEKERS
- SURVEILLANCE AND TARGETING SYSTEMS
- SIGNAL PROCESSORS

- ◆ MODELING AND SIMULATION

- RADAR SYSTEMS
- INTELLIGENT TRANSPORTATION SYSTEMS
- MISSILE GUIDANCE SYSTEMS
- GIMBALS / ANTENNAS
- 6-DOF (GLINT/CLUTTER/MULTIPATH)

- ◆ FIELD AND CAPTIVE FLIGHT TESTING

- CERTIFICATIONS:

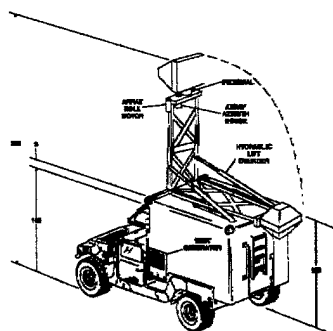
- ◆ DCAA AUDITED RATES
- ◆ DCAA ACCOUNTING SYSTEM
- ◆ SECRET FACILITY AND PERSONNEL CLEARANCES



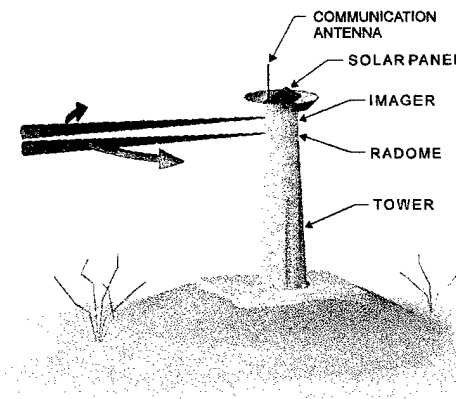


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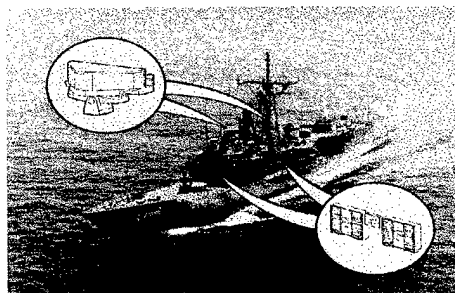
## STS FAMILY OF SOLID STATE RADARS



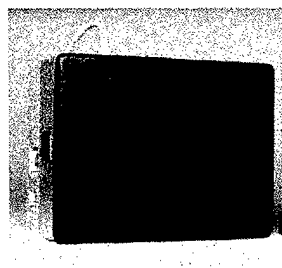
LowPAR



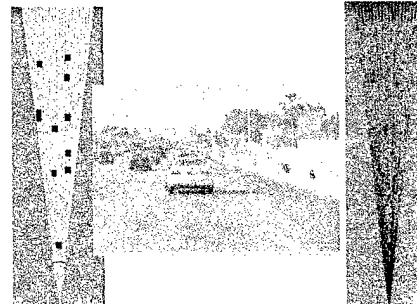
SENTRY



CAMBR



PRESENCE/MOTION  
DETECTOR



LOW COST IMAGER



KINGFISHER



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## THE SENTRY SYSTEM

- PROVIDES BOTH WIDE AREA AND HIGH RESOLUTION SURVEILLANCE FOR BORDER SECURITY AND FORCE PROTECTION
- COMBINATION OF LOW COST RADAR AND IMAGING SENSORS
  - ◆ RADAR PROVIDES INITIAL MOTION DETECTION
  - ◆ IMAGER ELIMINATES FALSE ALARMS FROM ANIMALS
- SENSED ACTIVITY DATA (RADAR AND VIDEO) TRANSMITTED TO COMMAND POST FOR VERIFICATION AND RESPONSE DECISION
- BOTH FIXED AND MOBILE SITES
  - ◆ FIXED SITES HARDENED AND SOLAR POWERED
  - ◆ MOBILE SITES CAN SERVE AS MINI COMMAND POSTS
- OVERLAPPING NETWORK PROVIDES CONTINUOUS COVERAGE
- SAME BASIC UNIT FOR SITE SECURITY, BORDER, PERIMETER AND COASTLINE SURVEILLANCE



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## ADVANTAGES OF ADDING RADAR TO IMAGING SYSTEMS

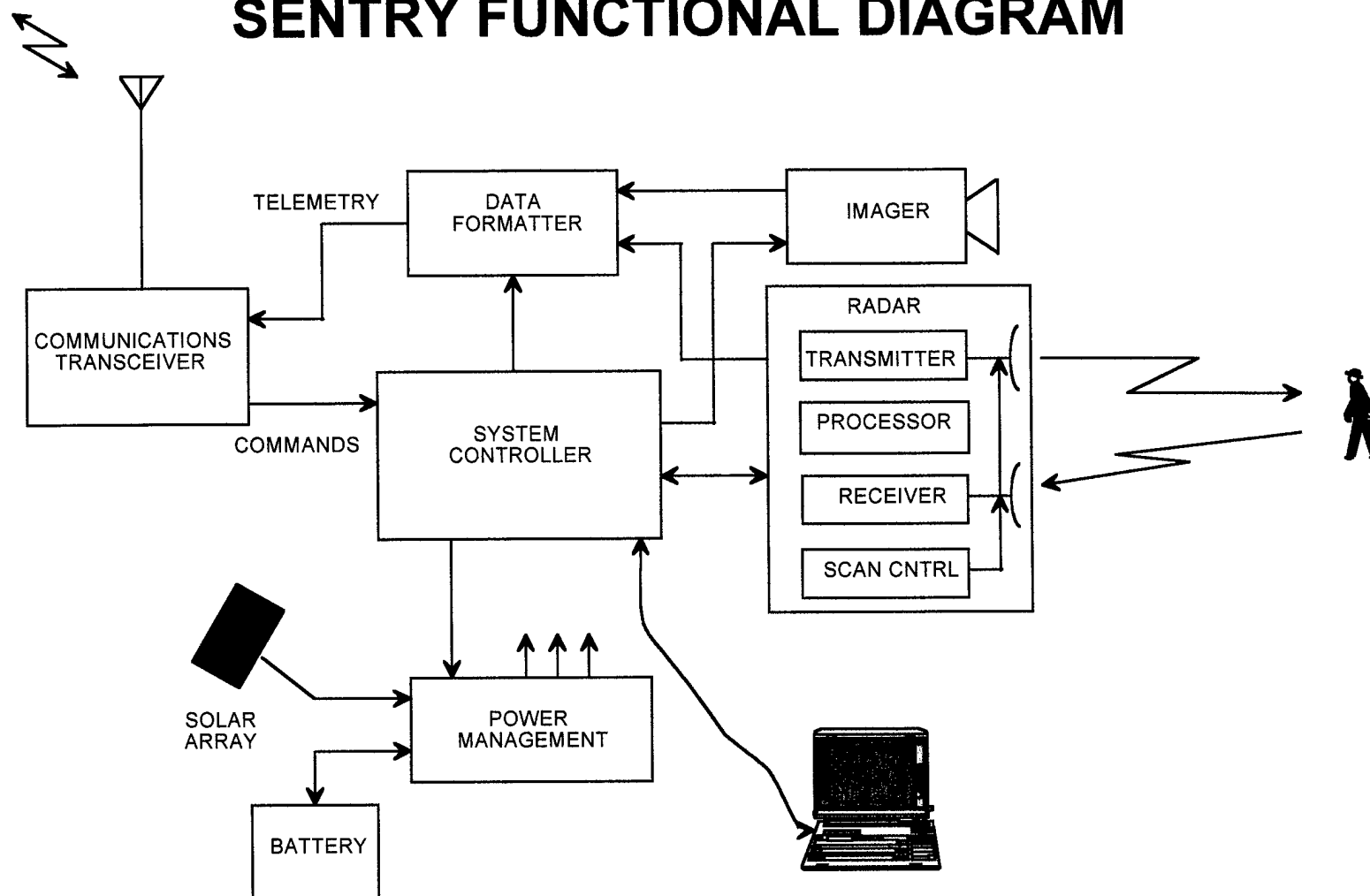
- AUTOMATIC MOTION DETECTION
- SIMPLE WIDE AREA SURVEILLANCE - TARGET RANGE
- MULTIPLY MANPOWER EFFECTIVENESS
- ALL WEATHER, ALL LIGHT LEVEL DETECTION
- NO NEED TO TRANSMIT DATA UNTIL MOTION DETECTED
- INCREASED COVERAGE CAN REDUCE NUMBER OF SITES



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## SENTRY FUNCTIONAL DIAGRAM



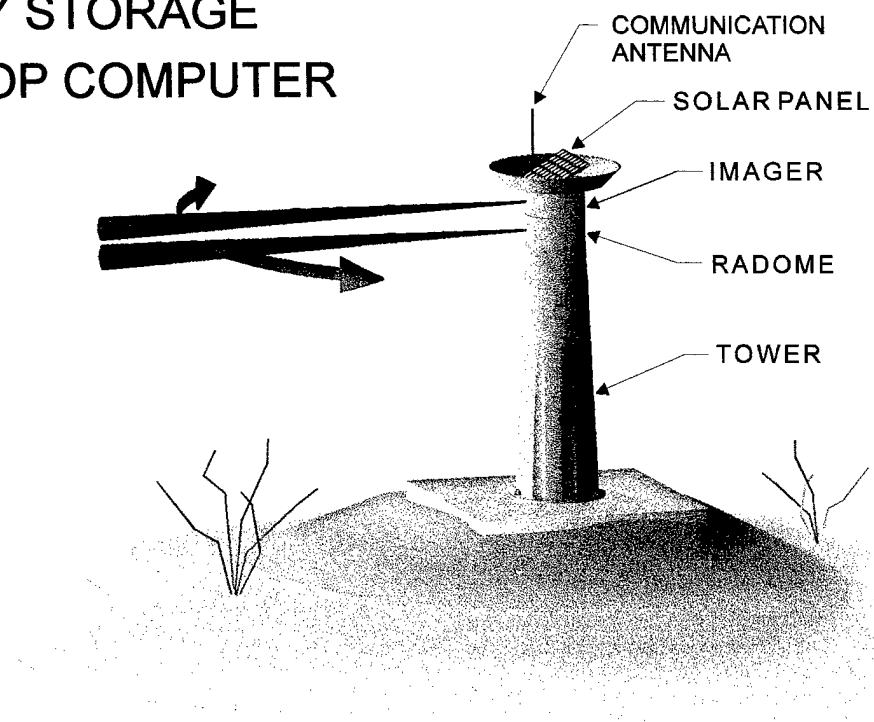


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## FIXED SITE

- SELF-CONTAINED SITE--CONCRETE PAD
- VARIABLE HEIGHT DEPENDING ON TERRAIN, VEGETATION AND OBSTRUCTIONS
- ALL WEATHER, DAY/NIGHT OPERATION
- SOLAR POWERED WITH BATTERY STORAGE
- LOCALLY ACCESSED WITH LAPTOP COMPUTER
- REMOTELY ACCESSED FROM COMMAND POST, MOBILE SENTRY OR PATROL VEHICLE
- TWO WAY COMMUNICATION
  - ◆ RADAR/VIDEO AND SELF-TEST DATA OUT
  - ◆ COMMANDS FOR SPECIAL REQUEST DATA IN

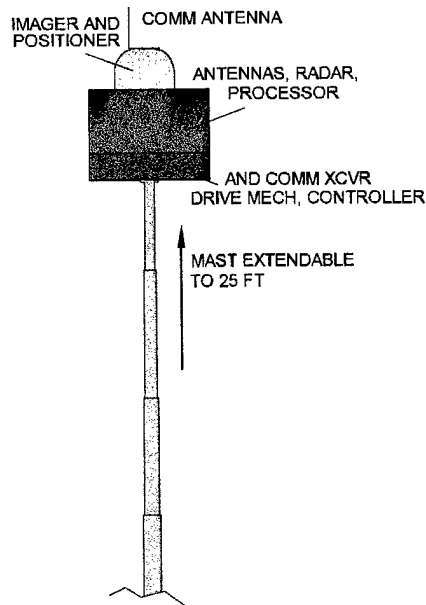




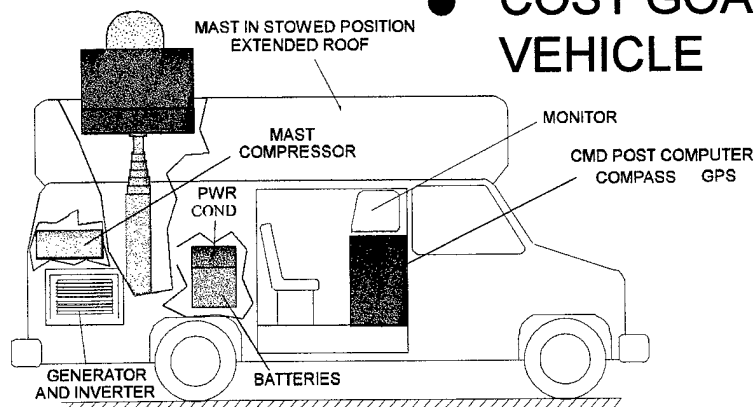
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## MOBILE UNIT



- CAN FUNCTION AS MANNED FIXED SITE OR MINI COMMAND POST
- CAN ACCESS ANY FIXED UNIT
- IMPROVES PERSONNEL SECURITY THROUGH SITUATIONAL AWARENESS
- MAST RETRACTS FOR TRAVEL
- COST GOAL - \$50K PLUS VEHICLE





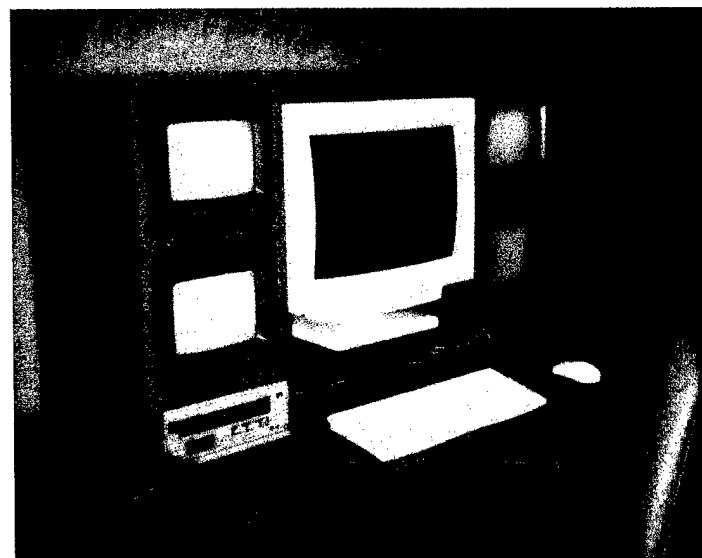
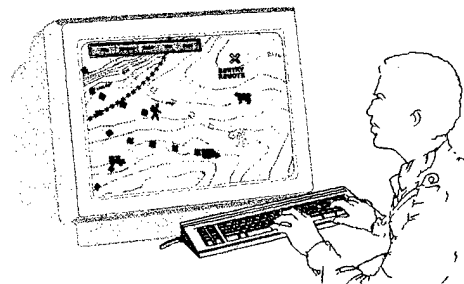


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## COMMAND POST

- AUTOMATIC COLLECTION / INTERPRETATION / PRESENTATION OF REMOTE SENSOR DATA
- GENERATES BOTH AREA OVERVIEW AND SITE-SPECIFIC DATA
- PRESENTS RADAR DATA ON AREA TOPOGRAPHY MAP
- PRESENTS VIDEO DATA FOR IDENTIFICATION
- OPERATOR CONTROL OF SITE AND DATA SELECTION AND PRESENTATION FORMAT
- SITE HEAVILY FILTERS DATA FOR REDUCED COMMAND POST MANPOWER





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## RADAR SENSOR

- DETECTS PERSONNEL, VEHICLES, LOW FLYING AIRCRAFT
- FMCW RADAR PROVIDES ADEQUATE PERFORMANCE AT LOW COST
- SEPARATE TRANSMIT AND RECEIVE ANTENNAS EXTENDS DETECTION RANGES
- LOW POWER - SAFE
- SPECIFICATIONS

### TARGET

PERSONNEL (1/2m <sup>2</sup> )	6.5 Km
JEEP (10m <sup>2</sup> )	13.5 Km
TRUCK (100m <sup>2</sup> )	24 Km
AIRCRAFT (10m <sup>2</sup> )	13.5 Km

### COVERAGE

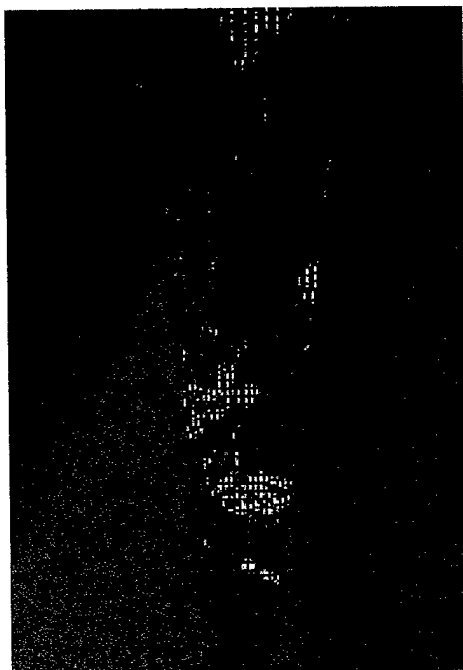
AZIMUTH	360 DEGREES OR SECTOR
ELEVATION	± 15 DEGREES
ANGULAR RESOLUTION	1.5 DEGREES
REVISIT TIME	10 SECONDS (FULL 360° SCAN)



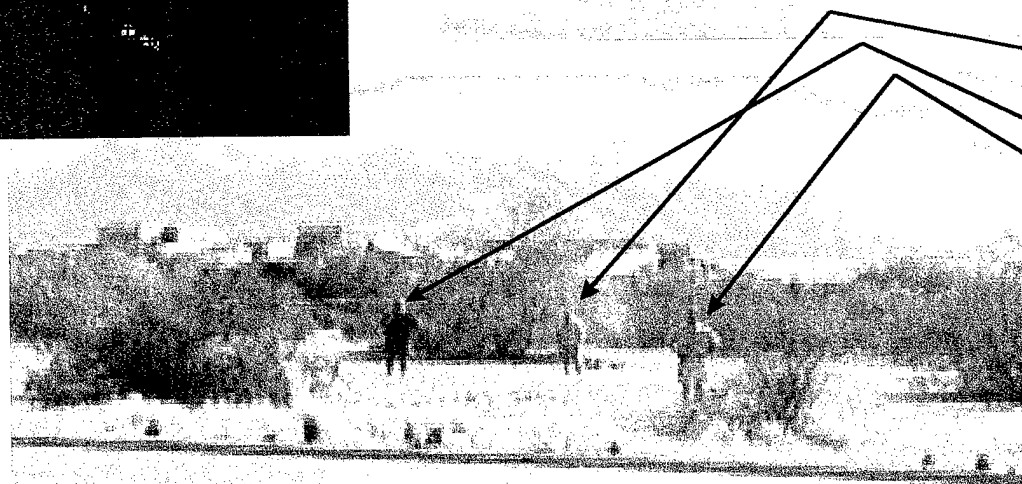
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## TYPICAL RADAR IMAGE



NO PERSONNEL PRESENT

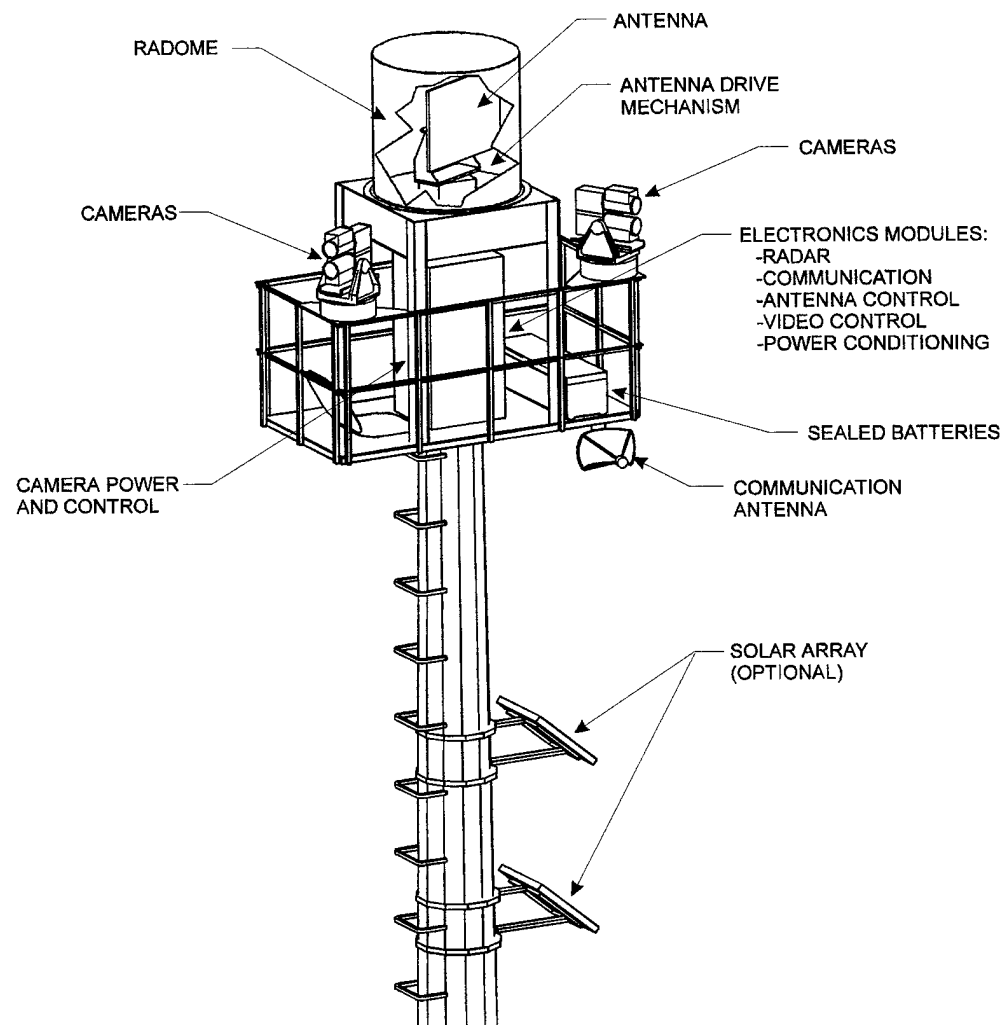


PERSONNEL PRESENT





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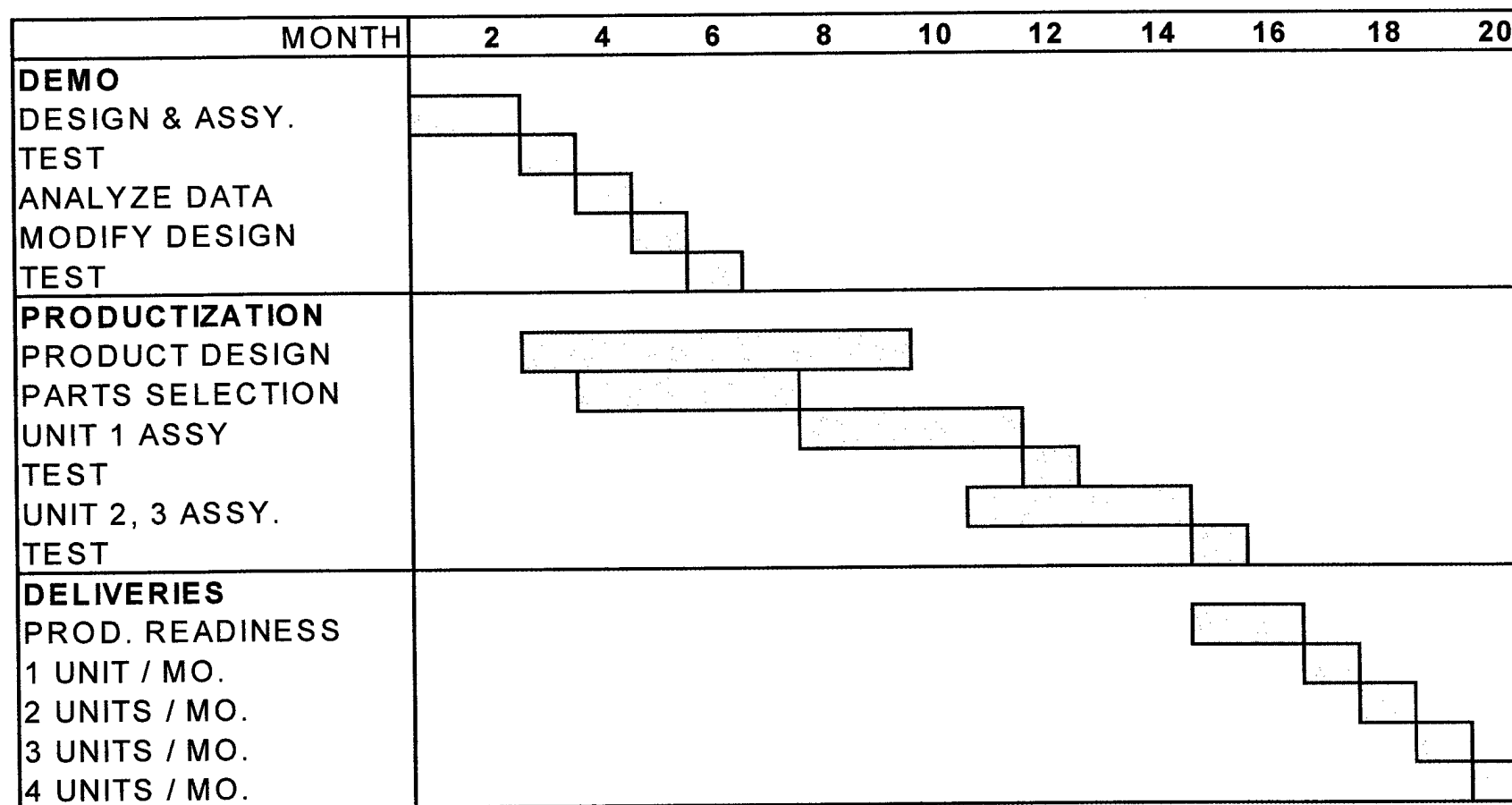
**TYPICAL SENTRY INSTALLATION**



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## SCHEDULE





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## OTHER APPLICATIONS OF SENTRY TECHNOLOGY

- FORCE PROTECTION
- SHORELINE / HARBOR SURVEILLANCE
- PRISON SURVEILLANCE
- MOBILE UNIT FOR INLAND SEARCH MISSION
- COMMERCIAL HIGH VALUE SITE PROTECTION



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## SUMMARY

- SENTRY PROVIDES HIGH RESOLUTION, LOW FALSE ALARM REMOTE SURVEILLANCE
- AUTOMATIC SENSING, MAN-IN-THE-LOOP RESPONSE DETECTION
- FLEXIBLE POINT SENSOR OR OVERLAPPING NETWORK
- FIXED AND MOBILE CONFIGURATIONS
- REDUCES SURVEILLANCE MANPOWER
- PROVIDES 24 HOUR, DAY/NIGHT, ALL WEATHER SITUATIONAL AWARENESS
- AFFORDABLE